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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/775,137 | 02/11/2004 | Ryota Kido | IPE-034-008 | 2431 |

20374 7590 01/26/2005

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| EXAMINER | |
|---|---|
| MULLIS, JEFFREY C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1711 | |

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/775,137 | KIDO ET AL. | |
| | Examiner | Art Unit | |
| | Jeffrey C. Mullis | 1711 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *204*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Claims 13-15 and 22-23 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claim 22 is unclear since lines 2-7 recite mixing a graft copolymer . . . with 10 to 95 parts by weight of a copolymer (A) in a melt state "in the step of continuous bulk polymerization or continuous solution polymerization by vinyl monomer mixture" since it is not stated how mixing is related to a step of continuous bulk polymerization or continuous solution polymerization nor would it readily be apparent to those skilled in the art how they are related given that mixing and polymerization are different steps.

The term "substantially" as recited in claims 13-15 and 23 is subjective nor does the specification give any indication as to how much substantially may embrace and therefore this term is unclear.

Claim 23 is unclear since it recites "average" particle size despite the fact that particle sizes exist as a distribution and therefore the term "average" will vary depending on the type of statistical distribution of the particle size, i.e. for instance weight or number average particle size.

The following is a quotation of the appropriate paragraphs

of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Quinn et al. (GB 2106120).

Quinn et al. disclose a molding composition in which polybutadiene latex is grafted with styrene and acrylate monomers subsequent to which more latex is added and more grafting takes place following which a styrene/acrylate resin is added and the resin and grafted rubber mixed in a devolatilizing extruder at temperatures of as high as 560°F. Note Example 1 in this regard.

With regard to applicants' acid value characteristic, the process of applicants' specification used to generate materials having such an acid value is one in which a styrene/unsaturated carboxylic acid ester grafted rubber along with a styrene/unsaturated carboxylic acid alkylester resin are blended at elevated temperatures in an extruder with water. Such a process is substantially the same as patentees' Example 1 and therefore presumably applicants' and patentees' compositions both inherently have the same acid numbers. With regard to applicants' characteristic regarding compositional distribution, both applicants' and patentees' specifications utilize ordinary free radical polymerization with the monomeric components and therefore presumably the compositional distribution in patentees' and applicants' products would inherently be the same. With regard to applicants' triple sequence of acrylonitrile monomer units, patentees present examples in which no acrylonitrile is present at all and therefore presumably have no triple sequences of acrylonitrile monomer units at all as is embraced by for instance instant claim 16. With regard to applicants' solubility parameter characteristic, applicants' and patentees' specifications both utilize the same monomers for polymerization and the resulting polymer would therefore be expected to have the same characteristics including those with regard to solubility

parameter characteristic. With regard to the difference in refractive index characteristic recited by for instance instant claim 12, patentees disclose that their composition has good haze characteristic, i.e. is clear at page 1 lines 24-27 and as a composition having different domains with differing refractive indices would not be expected to be clear in that the different phases would refract light differently, patentees' refractive index difference between rubber and non-grafted phase would be expected to be close to 0. With regard to claim 22, such characteristics are not recited at all. However claim 22 recites a step of continuous bulk polymerization or continuous solution polymerization. While patentees' Example 1 discloses that polymerization of the non-rubber phase takes place in solution, it is not disclosed that such a process necessarily takes place continuously. Nonetheless, the term "continuous" polymerization embraces such processes such as those relying upon continuous polymerization utilizing a reaction which takes place in a pipe, i.e. a pipe reactor in which all reaction elements of the system which are in contact with each other have been reacted for the same length of time as is characteristic of a batch type reaction and therefore it would reasonably appear that continuous polymerizations embrace conditions which produce the same product when using the same starting materials and as claim 22 is drawn

to a product and not a process, the term "continuous" would not require that different products be generated from a batch type reaction. With regard to the use of "pelletized thermoplastic resin" in claim 22, again this claim is drawn to a product, not a process and as melt blending would cause the pellet to disappear upon converting to the melt stage it would not reasonably appear that the term "pelletized" or use of a pelletized thermoplastic resin intermediate would lead to a different product than one which would not be pelletized. Similarly with regard to any order of addition of various reactants in claim 22, the final product in the patent is thoroughly mixed and it cannot be seen how orders of addition would affect this final outcome.

Product-by-process claims are not rejected using the approach set out in Graham v. Deere. It is applicant's burden to show that there is a non-obvious difference between the product of a product-by-process claim and a prior art product which reasonably appears to be the same or only slightly different whether or not the prior art product is produced in the same manner as the claimed product. Note In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983); In re Brown, 173 USPQ 685 (CCPA 1972) and In re Thorpe, 227 USPQ 964 (CAFC 1985) in this regard.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine

whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

It is noted that Quinn et al. incorporates by reference U.S. Patent 3,354,238 at column 3 lines 3-72 for the specific purpose of blending in a devolatilizer extruder. Therefore the disclosure of U.S. Patent 3,354,238 at column 3 lines 3-72 should be considered to be an integral part of the Quinn et al. patent although at present it does not appear that such subject matter of U.S. Patent 3,354,238 adds anything to Quinn et al. that is not already in Quinn's Examples since Quinn's Examples use a devolatilizing extruder such as is disclosed in Quinn '238.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (571) 272-1075. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (571) 272-1078. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of

this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-0994.

J. Mullis:cdc
January 19, 2005

JEFFREY C. MULLIS
PRIMARY EXAMINER
GROUP 1200 1711